

Next, the Examiner is thanked for pointing out at § 4 of the Office Action that previously-advanced arguments were not commensurate with the scope of claim 2. Claim 2 has been suitably revised in line with the Examiner's suggestions. Those previously-advanced arguments are incorporated by reference herein.

Claim 2 describes an invention concerning a method of refilling a spent ink bag for use in an ink jet recorder (a spent ink bag refers to an ink bag which has had ink therein consumed, and it will be appreciated that this encompasses ink bags that are completely or just partially emptied). This is accomplished by removing the spent ink bag from the ink jet recorder, positioning the spent ink bag, inserting an ink needle into a port of the spent ink bag, after the removing step, discharging ink from the spent ink bag only through the port (this differs from the routine consumption of ink during operation), and, after the discharging step, charging the spent ink bag only through the port with a specified quantity of ink.

It is respectfully submitted that this claim avoids the cited art for at least the reasons already given. Moreover, Merrill only teaches that an ink cartridge, when spent, is removed from the docking bay for refilling (Office Action, col. 12, lines 37-39). Nowhere is there even a suggestion to deliberately exhaust ink from the removed spent cartridge and then refill the empty cartridge with ink, as recited in claim 2.

Turning now to claims 3 and 4, in the interests of expediting prosecution, claims 3 and 4 have been revised to clarify the actions which are taken according to the recited invention. These changes do not alter the scope of the claims, and no relinquishment of claim coverage is intended.

Applicants first wish to point out that the features in question in fact involved the performance of method steps with reference to aspects of structure. For example, inserting a needle into the interior of a flexible ink bag is a method step, as is inserting an ink needle into a second opening along a line between first and second openings. Even though each step is performed with reference to certain structure, which defines the manner in which the method step is performed, the claim in fact sets out an action that is performed in a particular way.

Claim 3 is drawn to a method of refilling an ink bag for use in an ink jet recorder. The ink bag has a flexible bag portion with an interior and is initially filled with ink through a first opening in the bag that is sealed after the ink bag is initially filled. The method involves removing the ink bag from the ink jet recorder, positioning the ink bag, and advancing the tip of an ink needle into the interior of the flexible bag portion by passing the tip of the needle through a second opening in the ink bag different from the first opening through which the ink bag is initially filled with ink, the second opening being an ink supply port selectively engageable with an ink jet recorder. The method also involves charging the ink bag with a specified quantity of ink only through the second opening.

According to claim 4, this invention also pertains to a method of refilling an ink bag for use in an ink jet recorder, the ink bag being initially filled with ink through a first opening in the bag that is sealed after the ink bag is initially filled. This method involves providing the ink bag, the ink bag having, disposed on a line, the first opening and an opposing second opening that is an ink supply port selectively engageable with an ink jet recorder, removing the ink bag from the ink jet recorder, positioning the ink bag, advancing the tip of an ink needle along the

line and through the second opening in the ink bag, and charging the ink bag only through the second opening with a specified quantity of ink.

Merrill in no way suggests at least the aspects of claim 3 relating to the claimed act of inserting the needle tip into interior of the flexible ink bag in order to position the needle tip in the flexible ink bag.

Merrill in fact teaches away from the present invention because Merrill locates the needle outside of and separate from the ink reservoir. Merrill teaches only that an ink refill needle 200 is pushed through septum 104 in the fluid outlet 28 into a chamber having a spring-activated ball valve, this chamber being separate from the ink reservoir 24. The needle tip remains in the chamber and does not enter into the ink reservoir; Figs. 10 and 12 of Merrill show that the fluid outlet 28, a chamber where the spring and ball valve are located is separated from the ink reservoir 24 by a serpentine path consisting of conduit 84, pump outlet 62, ink chamber 56 and pump inlet 60. As explained at col. 12, line 37, through col. 13, line 6, the tip of the needle only contacts the ball, and so remains in outlet 28, and does not enter reservoir 24. Accordingly, Merrill fails to teach all the features of claim 3.

Merrill also in no way suggests at least the aspects of the invention as set forth in claim 4 involving advancement of the ink refill needle in a particular direction. Specifically, claim 4 provides for the act of advancing the tip of an ink needle along a line connecting both the first opening (through which the bag is initially filled) and the opposing second opening (that is an ink supply port) into the second opening.

In contrast, as is clear from Fig. 12, Merrill advances the needle in a direction perpendicular to the line connecting the ink outlet 28 and the ink fill port 52.

Accordingly, Merrill fails to teach all the features of claim 4.

Applicants also take this opportunity to traverse, for the reasons which follow, the assertion in the Office Action that the structural limitations of claims 3 and 4 were not entitled to patentable weight. Moreover, the claims have been revised to incorporate these features into method steps.

The case cited in support of this position, Ex parte Pfeiffer, 135 U.S.P.Q. 31 (Pat. Off. Bd. App. 1961) is inconsistent with the Federal Circuit's decision in Moleculon Research Corp. v. CBS, Inc., 793 F.2d 1261 (Fed. Cir. 1986), cert. denied, 479 U.S. 1030 (1987). The Court in Moleculon, explaining how to interpret a method claim containing apparatus limitations, and according the apparatus limitations weight, stated:

We note decisions where structural recitation in a method claim step was construed as a limitation on the claim. See Austin Powder Co. v. Atlas Powder Co., 568 F.Supp. 1294, 1316 (D. Del. 1983); Laminex, Inc. v. Fritz, 389 F.Supp. 369, 373-74 (N.D. Ill. 1974). Whether structural recitation limits a claim depends on the language of the claim, the specification, prosecution history, and other claims. The district court erred, therefore, in using the transitional phrase "which comprises" to expand the scope of the recited "eight cube picces."

793 F.2d at 1271 (emphasis added).

Given the Federal Circuit's statement in Moleculon, the inconsistent Pfeiffer decision does not control, and Applicants' structural features are entitled to patentable weight.

Furthermore, revised claims 3 and 4 set forth steps which themselves avoid Merrill.

For all the foregoing reasons, favorable reconsideration and withdrawal of this rejection are respectfully requested.

CONCLUSION

Any additional fees or charges required at this time and in connection with the present application may be charged to Patent and Trademark Office Deposit Account No. 19-4709.

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Attachment: Version With Markings To Show Changes Made

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JAN 15 2003

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VERSION WITH MARKINGS TO SHOW CHANGES MADEIN THE CLAIMS:

Cancel claims 1 and 5-10 without prejudice to, or disclaimer of, the subject matter presented therein.

Amend claims 2-4:

2. (Twice Amended) A method of refilling ~~an-a spent~~ ink bag for use in an ink jet recorder, comprising the steps of:

removing the spent ink bag from the ink jet recorder;

positioning the spent ink bag;

inserting an ink needle into a port of the spent ink bag;

after said removing step, discharging ink from the spent ink bag only through said port; and

after said discharging step, charging the spent ink bag only through said port with a specified quantity of ink.

3. (Amended) A method of refilling an ink bag for use in an ink jet recorder, the ink bag having a flexible bag portion having an interior and being initially filled with ink through a first opening in the bag that is sealed after the ink bag is initially filled, said method comprising the steps of:

removing the ink bag from the ink jet recorder;

positioning the ink bag;

inserting advancing a tip of an ink needle into the interior of the flexible bag portion by passing the tip of the needle through a second opening in the ink bag that is different than the first opening through which the ink bag is initially filled with ink, the second opening comprising an ink supply port selectively engageable with an ink jet recorder, wherein the ink needle is inserted into the interior of the flexible bag portion of the ink bag; and charging the ink bag only through the second opening with a specified quantity of ink.

4. (Amended) A method of refilling an ink bag for use in an ink jet recorder, the ink bag being initially filled with ink through a first opening in the bag that is sealed after the ink bag is initially filled, said method comprising the steps of:

providing the ink bag, the ink bag having disposed on a line, the first opening and an opposing second opening that is an ink supply port selectively engageable with an ink jet recorder;

removing the ink bag from the ink jet recorder;

positioning the ink bag;

inserting advancing a tip of an ink needle along the line and through the into a second opening in the ink bag that is different than the first opening and that is located linearly opposite of the first opening and through which the ink bag is initially filled with ink, the second opening comprising an ink supply port selectively engageable with an ink jet recorder, the ink needle being inserted into the second opening along the linear line between the first and second openings; and

charging the ink bag only through the second opening with a specified quantity of
ink.